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An Update on Employment changes by employer size during the COVID-19 pandemic: a look at the Current Employment Statistics survey microdata

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An Update on Employment changes by employer size during the COVID-19 pandemic: a look at the Current Employment Statistics survey microdata*

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Abstract

This paper expands on previous work analyzing employment changes by employer size during the pandemic by incorporating additional months of new data (October and November 2020) and examining job loss by both employer size class and detailed industries. Continuing trends observed since mid-summer, we observe continued faster job recovery among large employers than among smaller employers. Furthermore, establishments of large employers known to have multiple establishments have fared better than large employers with only a single-establishment. Within small employers, we find that employment loss due to closures has declined only a small amount since July, going from 2.8% to 2.3% in November. For large employers, employment loss due to closures has been less than 1% since June.

JEL codes: E24, J21, J23, J63

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1 Introduction

The COVID-19 pandemic has had a sudden and dramatic impact on the labor market, and is associated with unprecedented job losses in all areas of the United States and across a variety of industries. This paper expands on previous work by incorporating two additional months of new data (October and November 2020) and examining job loss by both employer size class and detailed industries[1]. Continuing trends observed since mid-summer, large employers are experiencing faster job recovery than smaller employers. Furthermore, establishments of large employers known to have multiple establishments have fared better than large employers with only a single establishment. Within small employers, we find that employment loss due to closures has remained fairly steady since July, suggesting that these losses may reflect permanent closures. By industry, job loss among smaller employers was greatest in arts, entertainment and recreation industries as well as in retail trade industries. Job loss was largest for smaller employers relative to larger employers in retail trade industries. Smaller employers had better employment outcomes relative to larger employers in construction industries.

2 New October and November Data updating job losses estimates by employer size

This analysis follows the same methodology as described in Dalton, Handwerker and Loewenstein (2020), using the microdata from the Current Employment Statistics (CES) survey to create estimates of job loss by employer size at the end of 2019. To simplify the analysis, we group all establishments that are part of employers that had no more than 499 employers in 2019 into one category. Furthermore, we combine our estimates for closures observed in the CES microdata and for imputed closures from nonresponding establishments into a single estimate of employment loss due to closures. The CES microdata do not allow us to identify which closures are permanent and which closures are only temporary. Our estimates do not include any employment in establishments that have opened since February 2020. One point of interest during the pandemic has been what has occurred with large multi-establishment employers as compared to single establishments. For that reason, we separate out the employment change for multiunit employers with employment above 500, where a multiunit employer is defined as having more than one establishment with the same Employer tax ID number[2]. Figure 1 depicts the employment loss since February 2020 for each employer size category, broken down by the two components that sum to the total employment loss – employment loss for continuing establishments and employment loss due to closures.

Figure 1 shows that for both groups of large employers, defined as having employment of 500 or greater at the end of 2019 across all establishments reporting to the Unemployment Insurance

[1] Michael Dalton, Elizabeth Weber Handwerker, and Mark A. Loewenstein, "Employment changes by employer size during the COVID-19 pandemic: a look at the Current Employment Statistics survey microdata," Monthly Labor Review, U.S. Bureau of Labor Statistics, October 2020, https://doi.org/10.21916/mlr.2020.23.

[2] In BLS data, an EIN does not always correspond to a firm. There are many examples in which individual plants of multi-unit companies report their employment to the Unemployment Insurance system using different Employer tax ID numbers (EINs).

System with a common Employer tax ID number, employment loss due to closures has reflected only a small amount of employment loss across the months. For large, multi-establishment employers, employment loss due to closures peaked in May at 1% and is down to .6% in November. For large single-establishment employers, employment loss due to closures never never rose above .4%.

For small employers, defined as having employment of less than 500 in 2019 across all establishments reporting to the Unemployment Insurance System with a common Employer tax ID number, employment loss due to closures has been larger. Employment loss due to closures peaked in April at 7.1% and was 2.3% in November, down .3% from October. Note, however, that this percentage has not improved much since the 2.8% observed in July. This may reflect that some small establishments have permanently closed since July, though that cannot be confirmed in CES data.

As of November, employment declines at continuing establishments resulted in a 3.2% job loss at small businesses. Employment loss at continuing establishments has continued to abate notably for both small and large employers since July. This contrasts with employment loss due to closures, which, as noted above, has abated only minimally for small businesses since July.

Figure 2 shows the total employment loss (equal to the sum of the two components) for each size group. For the smaller size class, employment quickly dipped to an 18.6% loss in April, but then quickly improved, more than halving the loss by July (7.9%). Since July, small employers have recovered about a third of the remaining employment loss, and by November had lost 5.6% of their February employment. For larger single-unit employers, employment losses were smaller in the spring, but did not begin to recover until mid-summer. More than half of the job losses in July (8.7%) have now been recovered by November (4.0%). Large multi-unit employers followed a similar pattern to the single-unit large employers, though experiencing a comparatively smaller employment decline each month. Like large single-unit employers, the employment loss of large multi-unit peaked in May (9.5%). Over two thirds of the employment loss in July (6.1%), has been recovered as of November (1.4%). For both large single and multi-unit employers, there has thus been an acceleration of job recovery since July for that is not seen for smaller employers.

3 Detailed Industry Estimates

Relying again on the same methodology as Dalton, Handwerker, and Loewenstein (2020), we now produce estimates for small and large employer sizes by 4-digit NAICS industry code. For this section, we combine the large employers into a single category. To ensure reliable estimates and respondent confidentiality, we restrict the presentation of results to industries with at least 50 observations as of November in the displayed size class. There are 199 unique 4-digit industries with at least 50 observations in the small size class. An additional 4 industries are not reported because our overall employment loss estimates for these industries in September were more than 15 percentage points different from official published CES estimates[3]. Tables 3 and 4 only include the 150 4-digit industries that have at least 50 observations in both the small and large size classes.

[3]Published industry-level estimates of employment by industry from the CES survey can be found at https://www.bls.gov/news.release/empsit.t17.htm and https://download.bls.gov/pub/time.series/ce/

Table 1 shows small and large employer percentage employment losses in November for the 25 industries with the largest losses since February for small employers. The biggest losses were for performing arts companies (47%), travel arrangement and reservation services (39%), special food services (33%), other transit and ground passenger transportation (32%), and motion picture and video industries (30%). Of the worst-off 25 industries, 5 are in the arts, entertainment, recreation sector and 3 are in the retail sector.

Restaurants (NAICS code 7225) have been the subject of a great deal of public concern during the pandemic-recession. Using cellphone data, Crane et al. estimate that about 12 percent of restaurants had permanently closed in 2020 by August, higher than the ordinary restaurant closure rate of 8 percent[4]. We estimate that as of November, the cumulative job losses in restaurant employers with fewer than 500 employees is 12.9%. This is lower than our estimates for the smaller employers in the industries appearing in Table 1, so restaurants do not appear in the table. Based on published CES employment estimates from February through October, total restaurant employment (small and large employers) has gone from 10.9 million to 9.5 million, a 13% overall decline. For the 25 industries shown in Table 1, total employment (small and large employers) in published CES estimates has gone from 10.3 million in February to 7.7 million in October, a 25% decline. We estimate that among restaurant employers with fewer than 500 employees, 26% of employment loss is due to closures, and 74% is due to employment reductions in establishments that are open in November. By way of contrast, drinking places (NAICS code 7224) with fewer than 500 employees had lost 27.9% of their February employment by November, and 47% of that employment loss was due to closures.

Table 2 shows small and large employer percentage employment changes in November for the 25 industries where these cumulative gains were the largest (or losses smallest) since February for small employers. The biggest improvements were for highway, street, and bridge construction (17%), lawn and garden equipment and supplies stores (6%), services to buildings and dwellings (5%), farm product raw material merchant wholesalers (4%), and other specialty trade contractors (4%). Of the 25 industries with the most growth, 6 are in the manufacturing sector, 3 of which are in food manufacturing.

Table 3 shows the 25 industries where smaller employers have had the greatest job losses, relative to large employers in the same industry. Small employers are doing the worst relative to large employers in couriers and express delivery services (-44% difference), travel arrangement and reservation services (-31% difference), warehousing and storage (-21% difference), building material and supplies dealers (-18% difference), and home furnishings stores (-18% difference). Of the 25 industries with the worst relative job losses, 7 are in the retail sector.

Table 4 shows the 25 industries where smaller employers have the smallest job losses (or largest job gains) relative to large employers in the same industry. Small employers are doing the best relative to large employers in other amusement and recreation industries (20% difference), civic and

[4]Crane, Leland D., Ryan A. Decker, Aaron Flaaen, Adrian Hamins-Puertolas, and Christopher Kurz (2020). "Business Exit During the COVID-19 Pandemic: NonTraditional Measures in Historical Context," Finance and Economics Discussion Series 2020-089. Washington: Board of Governors of the Federal Reserve System, https://doi.org/10.17016/FEDS.2020.089 .

social organizations (17% difference), services to buildings and dwellings (13% difference), printing and related support activities (11% difference), and educational support services (10% difference). Of the 25 industries with the least relative job losses, 5 are in construction and 4 are in the other services.

4 Conclusion

In this update to our earlier work, we show that employment recovery since July has accelerated for large employers relative to small employers. We also find that large multi-establishment employers have had a smaller employment decline each month than large single-establishment employers. Furthermore, employment loss due to closures for small employers has remained mostly stagnant since July, with the result that about 42% of lost employment within smaller employers was due to closures as of November. Although the CES microdata do not allow us to identify which closures are permanent and which closures are only temporary, many of these closures may have become permanent, making it difficult for these jobs to quickly return.

We also extend our analysis to examine the variation in patterns of job loss by industry. Small employers in the retail sector appear to be struggling the most relative to large employers within the same sector, whereas small employers in the construction sector are doing well compared with large employers.

Figure 1: Percentage Employment Change by Component since February 2020. Current Employment Statistics survey

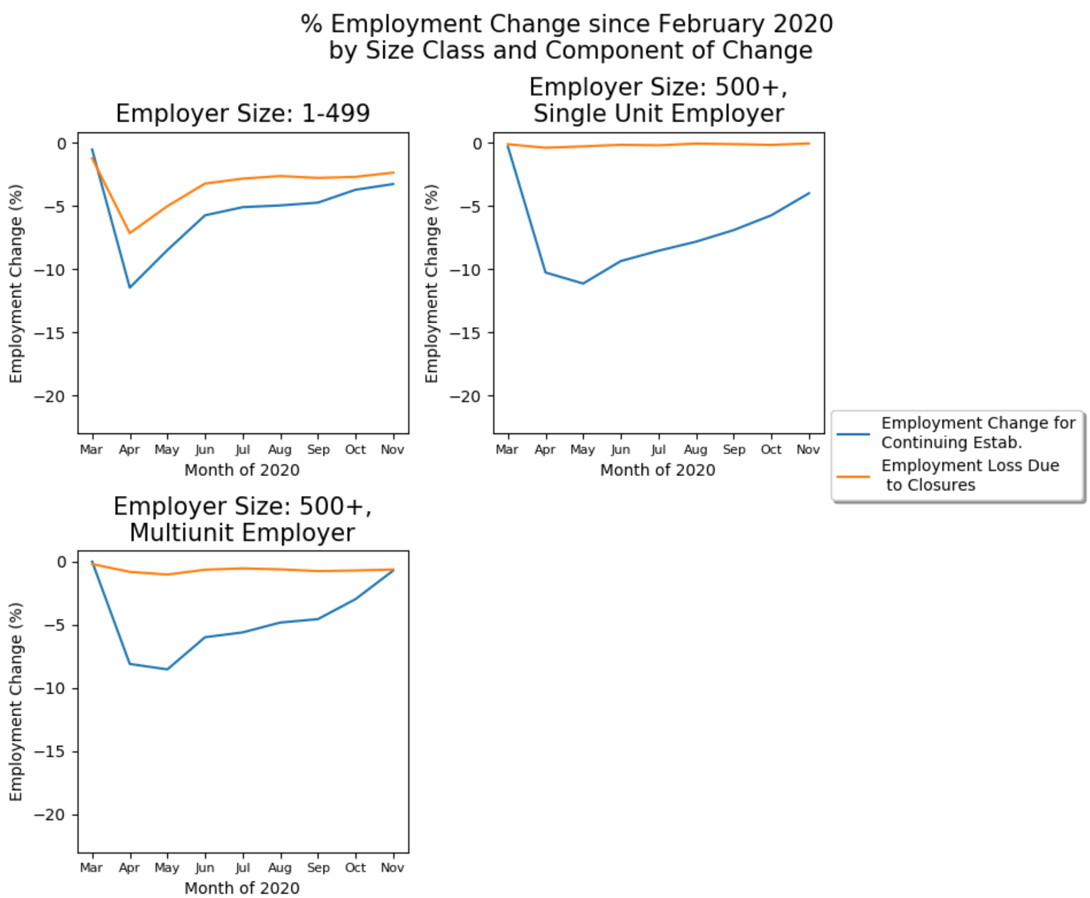

Figure 2: Percentage Employment Change since February 2020. Current Employment Statistics survey.

Table 1: The 25 Industries with the Biggest Employment Loss for Small Employers as of November 2020, Relative to February 2020 (CES)

4-Digit NAICS Title [4-digit NAICS code]	Percentage Employment Change as of November 2020 Relative to February 2020 for	
	Small employers [Emp. Size: 1-499]	Large employers [Emp. Size: 500+]
Performing Arts Companies [7111]	-46.8	**
Travel Arrangement and Reservation Services [5615]	-38.6	-7.3
Special Food Services [7223]	-33.0	-22.4
Other Transit and Ground Passenger Transportation [4859]	-32.5	**
Motion Picture and Video Industries [5121]	-30.1	-24.0
Drinking Places (Alcoholic Beverages) [7224]	-27.9	**
Traveler Accommodation [7211]	-24.7	-19.7
Civic and Social Organizations [8134]	-21.6	-38.4
Independent Artists, Writers, and Performers [7115]	-20.9	**
Commercial and Industrial Machinery and Equipment Rental and Leasing [5324]	-20.7	-3.1
Cut and Sew Apparel Manufacturing [3152]	-20.1	**
Support Activities for Mining [2131]	-19.9	-27.8
Other Schools and Instruction [6116]	-19.7	**
Drycleaning and Laundry Services [8123]	-19.2	-13.5
School and Employee Bus Transportation [4854]	-19.1	**
Fabric Mills [3132]	-18.2	**
Clothing Stores [4481]	-17.9	-4.7
Shoe Stores [4482]	-17.8	-5.4
Other Amusement and Recreation Industries [7139]	-16.4	-36.3
Museums, Historical Sites, and Similar Institutions [7121]	-16.2	**
Gambling Industries [7132]	-15.7	**
Support Activities for Air Transportation [4881]	-15.6	-19.3
Florists [4531]	-15.5	**
Apparel, Piece Goods, and Notions Merchant Wholesalers [4243]	-14.4	-12.6
Child Day Care Services [6244]	-13.9	-17.0

** means there was insufficient sample size to publish the number.

Table 2: The 25 Industries with the Biggest Employment Gain (or Smallest Loss) for Small Employers as of November 2020, Relative to February 2020 (CES)

4-Digit NAICS Title [4-digit NAICS code]	Percentage Employment Change as of November 2020 Relative to February 2020 for: Small employers [Emp. Size: 1-499]	Large employers [Emp. Size: 500+]
Highway, Street, and Bridge Construction [2373]	17.0	**
Lawn and Garden Equipment and Supplies Stores [4442]	5.8	0.2
Services to Buildings and Dwellings [5617]	5.2	-7.5
Farm Product Raw Material Merchant Wholesalers [4245]	3.7	4.2
Other Specialty Trade Contractors [2389]	3.6	-4.9
Scientific Research and Development Services [5417]	3.5	0.4
Cement and Concrete Product Manufacturing [3273]	3.5	**
Fruit and Vegetable Preserving and Specialty Food Manufacturing [3114]	2.2	1.5
Community Food & Housing, & Emergency & Relief Services [6242]	2.1	**
Electronic Shopping and Mail-Order Houses [4541]	2.1	20.0
Nonmetallic Mineral Mining and Quarrying [2123]	2.0	-0.9
Software Publishers [5112]	1.6	-0.8
Sugar and Confectionery Product Manufacturing [3113]	1.5	**
Agencies, Brokerages, and Other Insurance Related Activities [5242]	1.5	-3.6
Chemical and Allied Products Merchant Wholesalers [4246]	1.4	-3.8
Dairy Product Manufacturing [3115]	1.3	-0.7
Automotive Parts, Accessories, and Tire Stores [4413]	1.2	-2.0
Animal Slaughtering and Processing [3116]	1.2	-0.1
Miscellaneous Nondurable Goods Merchant Wholesalers [4249]	1.0	-1.2
Soap, Cleaning Compound, and Toilet Preparation Manufacturing [3256]	0.2	**
Waste Collection [5621]	0.1	-3.7
Building Material and Supplies Dealers [4441]	0.1	18.4
Death Care Services [8122]	0.1	**
Other Heavy and Civil Engineering Construction [2379]	-0.3	**
Insurance Carriers [5241]	-0.4	-0.4

** means there was insufficient sample size to publish the number.

Table 3: The 25 industries where small employer employment has fallen most compared with large employers in the same industry as of November 2020, relative to February 2020 (CES)

4-Digit NAICS Title [4-digit NAICS code]	Percentage Employment Change as of November 2020 Relative to February 2020 for		
	Small employers [Emp. Size: 1-499]	Large employers [Emp. Size: 500+]	**Difference**
Couriers and Express Delivery Services [4921]	-4.9	38.6	-43.5
Travel Arrangement and Reservation Services [5615]	-38.6	-7.3	-31.3
Warehousing and Storage [4931]	-3.8	16.8	-20.6
Building Material and Supplies Dealers [4441]	0.1	18.4	-18.3
Home Furnishings Stores [4422]	-3.1	14.9	-18.0
Electronic Shopping and Mail-Order Houses [4541]	2.1	20.0	-17.9
Commercial and Industrial Machinery and Equipment Rental and Leasing [5324]	-20.7	-3.1	-17.6
Other Information Services [5191]	-12.8	2.9	-15.7
General Merchandise Stores, including Warehouse Clubs and Supercenters [4523]	-1.1	12.3	-13.4
Clothing Stores [4481]	-17.9	-4.7	-13.2
Shoe Stores [4482]	-17.8	-5.4	-12.4
Other Support Services [5619]	-11.5	0.1	-11.6
Special Food Services [7223]	-33.0	-22.4	-10.6
Employment Services [5613]	-6.5	3.8	-10.3
Specialized Design Services [5414]	-9.6	-0.7	-8.9
Freight Transportation Arrangement [4885]	-4.8	3.9	-8.7
Sporting Goods, Hobby, and Musical Instrument Stores [4511]	-6.7	0.8	-7.5
Professional and Commercial Equipment and Supplies Merchant Wholesalers [4234]	-5.7	1.7	-7.4
Securities and Commodity Contracts Intermediation and Brokerage [5231]	-5.5	1.8	-7.3
Bakeries and Tortilla Manufacturing [3118]	-6.4	0.5	-6.9
Beverage Manufacturing [3121]	-6.6	0.1	-6.7
Navigational, Measuring, Electromedical, and Control Instruments Manufacturing [3345]	-4.4	2.2	-6.6
Other Miscellaneous Manufacturing [3399]	-7.0	-0.4	-6.6
Motion Picture and Video Industries [5121]	-30.1	-24.0	-6.1
Investigation and Security Services [5616]	-10.3	-4.2	-6.1

Table 4: The 25 industries where small employer employment has fallen least compared with large employers in the same industry as of November 2020, relative to February 2020 (CES)

4-Digit NAICS Title [4-digit NAICS code]	Percentage Employment Change as of November 2020 Relative to February 2020 for Small employers [Emp. Size: 1-499]	Large employers [Emp. Size: 500+]	**Difference**
Other Amusement and Recreation Industries [7139]	-16.4	-36.3	19.9
Civic and Social Organizations [8134]	-21.6	-38.4	16.8
Services to Buildings and Dwellings [5617]	5.2	-7.5	12.7
Printing and Related Support Activities [3231]	-10.6	-21.1	10.5
Educational Support Services [6117]	-10.6	-20.2	9.6
Specialized Freight Trucking [4842]	-0.9	-9.8	8.9
Other Specialty Trade Contractors [2389]	3.6	-4.9	8.5
Support Activities for Mining [2131]	-19.9	-27.8	7.9
Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance [8113]	-3.0	-10.3	7.3
Foundation, Structure, and Building Exterior Contractors [2381]	-0.6	-7.6	7.0
Radio and Television Broadcasting [5151]	-4.9	-11.5	6.6
Personal Care Services [8121]	-13.3	-19.4	6.1
Lawn and Garden Equipment and Supplies Stores [4442]	5.8	0.2	5.6
Automotive Equipment Rental and Leasing [5321]	-7.6	-12.9	5.3
Nonresidential Building Construction [2362]	-5.9	-11.2	5.3
Chemical and Allied Products Merchant Wholesalers [4246]	1.4	-3.8	5.2
Building Finishing Contractors [2383]	-4.0	-9.2	5.2
Agencies, Brokerages, and Other Insurance Related Activities [5242]	1.5	-3.6	5.1
Automotive Repair and Maintenance [8111]	-4.1	-8.7	4.6
Offices of Real Estate Agents and Brokers [5312]	-1.0	-5.1	4.1
Offices of Other Health Practitioners [6213]	-5.2	-9.2	4.0
Waste Collection [5621]	0.1	-3.7	3.8
Technical and Trade Schools [6115]	-10.9	-14.7	3.8
Support Activities for Air Transportation [4881]	-15.6	-19.3	3.7
Residential Building Construction [2361]	-1.8	-5.4	3.6